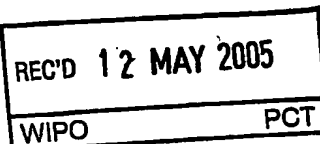


# PATENT COOPERATION TREATY



From the  
INTERNATIONAL SEARCHING AUTHORITY

## PCT

To:

see form PCT/ISA/220

### WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA/220

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No.  
PCT/US2005/001381

International filing date (day/month/year)  
14.01.2005

Priority date (day/month/year)  
14.01.2004

International Patent Classification (IPC) or both national classification and IPC  
F16D21/04, F16D27/102, F16D27/118, F16H63/30

Applicant  
THE TIMKEN COMPANY

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

#### 2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/US2005/001381

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**Box No. I Basis of the opinion**

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1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
  - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:
    - ☐ a sequence listing
    - ☐ table(s) related to the sequence listing
  - b. format of material:
    - ☐ in written format
    - ☐ in computer readable form
  - c. time of filing/furnishing:
    - ☐ contained in the international application as filed.
    - ☐ filed together with the international application in computer readable form.
    - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/US2005/001381

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**Box No. V Reasoned statement under Rule 43bis.1(a)(I) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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**1. Statement**

|                               |             |           |
|-------------------------------|-------------|-----------|
| Novelty (N)                   | Yes: Claims | 2,4-6,8,9 |
|                               | No: Claims  | 1,3,7     |
| Inventive step (IS)           | Yes: Claims |           |
|                               | No: Claims  | 1-9       |
| Industrial applicability (IA) | Yes: Claims | 1-9       |
|                               | No: Claims  |           |

**2. Citations and explanations**

**see separate sheet**

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**Box No. VII Certain defects in the international application**

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The following defects in the form or contents of the international application have been noted:

**see separate sheet**

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**Box No. VIII Certain observations on the international application**

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The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

**see separate sheet**

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING  
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/US2005/001381

**Re Item V.**

**1 Reference is made to the following documents:**

- D1 : EP 0 524 691 A (PEG PEREGO PINES S.P.A) 27 January 1993 (1993-01-27)
- D2 : EP 0 508 967 A (MORBIDELLI S.P.A) 14 October 1992 (1992-10-14)
- D3 : DE 10 49 714 B (GETRAG GETRIEBE UND ZAHNRADFABRIK GMBH) 29  
January 1959 (1959-01-29)
- D4 : EP 0 367 853 A (HONEYWELL INC) 16 May 1990 (1990-05-16)
- D5 : FR 2367227 KUBOTA LTD 05-05-1978

**2 INDEPENDENT CLAIM 1**

2.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.  
Document D1 discloses (the references in parentheses applying to this document):

A gear-clutch assembly organized about an axis and comprising,  
a gear (17) having grooves that open inwardly toward the axis and extend axially;  
a hub (19) located within the gear (17,18) where it is capable of rotating within the gear,  
the hub having grooves that open outwardly away from the axis and extend  
axially;  
keys (33,34) located within the grooves, of the hub and being capable of moving radially  
toward and away from the axis, the arrangement being such that when the keys are  
permitted to move away from the axis, at least one will enter one of the grooves (39,40) in  
the gear to couple the gear and hub so that they will turn in unison; and  
an actuator (25,26) for effecting radial displacement of the keys

2.2 Moreover, document D2 also shows all the features of claim 1 (see the whole document).

**3 INDEPENDENT METHOD CLAIM 7**

3.1 The same reasoning applies, mutatis mutandis, to the subject-matter of the corresponding independent claim 7, which therefore is also considered not new.

**4 DEPENDENT CLAIMS 2-6, 8, 9**

Dependent claim 2-6, 8, 9 do not seem to contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT), see documents D1-D5 and the corresponding passages cited in the search report.

**Re Item VII.**

1. Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents D1 and D2 is not mentioned in the description, nor are these documents identified therein.
2. The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).

**Re Item VIII.**

1. The term "evenly divisible" used in claim 2 is vague and unclear and leaves the reader in doubt as to the meaning of the technical features to which it refers, thereby rendering the definition of the subject-matter of said claim unclear, Article 6 PCT.